

a first radio frequency processing circuit receiving and processing signals from said first antenna;

a second antenna;

a second radio frequency processing circuit receiving and processing signals from second antenna; and

a base band processing circuit receiving and combining processed radio frequency signals from said first radio frequency processing circuit and from said second radio frequency processing circuit for diversity, and providing a control signal to said second radio frequency processing circuit to selectively activate and deactivate said second radio frequency processing circuit based on a determination as to whether diversity is appropriate.

2. (Amended) [A mobile station in accordance with claim 1] A mobile station comprising:

a first antenna;

a first radio frequency processing circuit receiving and processing signals from said first antenna;

a second antenna;

a second radio frequency processing circuit receiving and processing signals from second antenna; and

a base band processing circuit receiving processed radio frequency signals from said first radio frequency processing circuit and from said second radio frequency processing

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circuit for diversity, and providing a control signal to said second radio frequency processing circuit to selectively activate and deactivate said second radio frequency processing circuit based on a determination as to whether diversity is appropriate, wherein said first radio frequency processing circuit also transmits signals from said mobile station.

3. (Amended) [A mobile station in accordance with claim 1] A mobile station comprising:

a first antenna;

a first radio frequency processing circuit receiving and processing signals from said first antenna;

a second antenna;

a second radio frequency processing circuit receiving and processing signals from second antenna; and

a base band processing circuit receiving processed radio frequency signals from said first radio frequency processing circuit and from said second radio frequency processing circuit for diversity, and providing a control signal to said second radio frequency processing circuit to selectively activate and deactivate said second radio frequency processing circuit based on a determination as to whether diversity is appropriate, wherein said control signal generated by said base band processing circuit is controlled by a control signal from a base station with which said mobile station is in communication.

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5. (Amended) [A mobile station in accordance with claim 1] A mobile station comprising:

a first antenna;

a first radio frequency processing circuit receiving and processing signals from said first antenna;

a second antenna;

a second radio frequency processing circuit receiving and processing signals from second antenna; and

a base band processing circuit receiving processed radio frequency signals from said first radio frequency processing circuit and from said second radio frequency processing circuit for diversity, and providing a control signal to said second radio frequency processing circuit to selectively activate and deactivate said second radio frequency processing circuit based on a determination as to whether diversity is appropriate, wherein said mobile station informs a base station of its deactivation of diversity so that the base station will adjust its output power until a sufficient signal quality is achieved in accordance with the non-diversity mode.

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13. (Amended) A method of controlling diversity in a mobile station, comprising:

receiving a radio signal on a first antenna;

processing radio signals from said first antenna in a first radio frequency processing circuit;

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receiving radio signals in a second antenna;
processing radio signals from the first antenna in a second radio frequency
processing circuit;
receiving and combining processed radio frequency signals from said first radio
frequency processing circuit and from said second radio frequency processing circuit for
diversity in a base band processing circuit;
determining whether diversity is appropriate; and
providing a control signal to said second radio frequency processing circuit to
selectively activate and deactivate said second radio frequency processing circuit based on
said determination as to whether diversity is appropriate.

14. (Amended) [A method in accordance with claim 13] A method of
controlling diversity in a mobile station, comprising:
receiving a radio signal on a first antenna;
processing radio signals from said first antenna in a first radio frequency processing
circuit;
receiving radio signals in a second antenna;
processing radio signals from the first antenna in a second radio frequency
processing circuit;
receiving processed radio frequency signals from said first radio frequency
processing circuit and from said second radio frequency processing circuit for diversity in a
base band processing circuit;

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determining whether diversity is appropriate; and
providing a control signal to said second radio frequency processing circuit to
selectively activate and deactivate said second radio frequency processing circuit based on
said determination as to whether diversity is appropriate, further comprising controlling the
generation by said base band processing circuit of said control signal by a control signal
from a base station with which said mobile station is in communication.

16. (Amended) [A method in accordance with claim 13] A method of controlling
diversity in a mobile station, comprising:

receiving a radio signal on a first antenna;
processing radio signals from said first antenna in a first radio frequency processing
circuit;

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receiving radio signals in a second antenna;
processing radio signals from the first antenna in a second radio frequency
processing circuit;

receiving processed radio frequency signals from said first radio frequency
processing circuit and from said second radio frequency processing circuit for diversity in a
base band processing circuit;

determining whether diversity is appropriate; and
providing a control signal to said second radio frequency processing circuit to
selectively activate and deactivate said second radio frequency processing circuit based on
said determination as to whether diversity is appropriate, further comprising said mobile